

Applicant : Rikihiko Iida
Serial No. : 09/781,049
Filed : February 9, 2001
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Attorney's De No.: 10830-054001 / A36-
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REMARKS

The Office action maintained the prior art rejections of claims 1-3 as allegedly anticipated by U.S. Patent No. 6,400,737 (Broutin et al.). The Examiner's reply to applicant's previous response is set forth at the bottom of page 4 of the Office action. As understood by the applicant, the Office action seems to argue as follows: (1) the thermistor 126 in the Broutin et al. patent (FIG. 4) measures the temperature of the laser 110; and (2) the temperature of the laser is based on a set value(s); therefore, (3) the controller 160, which receives the output from the thermistor 126, calculates an approximate temperature "based on the set values of the wavelength and output level." As discussed below, that conclusion is incorrect.

A finding of an anticipation requires that every limitation be disclosed in a single reference and that any limitation not so disclosed be "inherent" in the disclosure of that same reference. That clearly is not the situation here.

The Broutin et al. patent explains as follows in connection with FIG. 4:

As known in the art for temperature tuned lasers, the output of laser module 110 can be adjusted by modifying its temperature. The temperature of laser module 110 can be adjusted by varying the temperature of TEC 124. A thermistor 126 is used to monitor the temperature of the module 110. A reading from the thermistor 126 is input into a controller 160 via an analog-to-digital converter 128. The temperature of TEC 124 is varied based on a TEC signal control signal from the controller 160 through a digital to analog (D/A) output of the controller (not shown).

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(Col. 4, lines 27-37)

The Office action (at page 5, par. c) refers to col. 6, line 6 – col. 7, line 5 of the Broutin et al. patent as allegedly disclosing calculating an approximate temperature “based on the set values of the wavelength and output level.” That is incorrect. That section simply explains how the controller 160 relates the change in temperature monitored by the thermistor to an equivalent change in the TEC control signal (*see* col. 6, lines 35-36). It is clear that, according to the Broutin et al. patent, the temperature of the laser is determined directly based on an actual measured value from the thermistor. In contrast to the pending claims, the approximate temperature of the laser (according to the Broutin et al. patent) is *not* calculated based on set values of the wavelength and the output level.” The actual measured value in the Broutin et al. patent does not correspond to a set value of either wavelength or the output level as recited in the pending claims.

Furthermore, the Office action is incorrect when it states that (according to the Broutin et al. patent) “the information received by the thermistor is based on the set values of the wavelength and output level, since the set values of the wavelength and output level are what controls the laser temperature as well.” As shown in FIG. 4, the “TEC control signal” is what controls the laser temperature. The TEC signal, which is simply a voltage signal (col. 6, line 34), is defined in equation (6) at col. 7, lines 1-4 of the Broutin et al. patent. Although the function of the TEC signal is “to ensure that the laser module 110 has a temperature corresponding to a desired wavelength” (col. 8, lines 47-50), the TEC signal does not constitute “set values” of wavelength and output level as recited in the claims.

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The statement in the Office action that "Applicant failed to specify how the calculation is performed within the claim limitation" is irrelevant. The Office action does not reject the claims as indefinite, and there is ample support in the specification to satisfy the enablement requirement. There is no requirement that the claims specify a particular equation for calculating the approximate temperature.

The Office action also refers to the decision *Ex parte Masham* by the Board of Patent Appeals and Interferences for the proposition that claim language specifying the manner in which the apparatus is to be used does not constitute a patentable limitation. That decision is irrelevant because, according to claim 1, the approximate temperature calculating section is "adapted to calculate an approximate temperature of the DFB laser based on the set values of the wavelength and output level." That limitation constitutes a structural limitation, not merely an intended use of the apparatus. According to the specification, the approximate temperature calculating section may include, for example, a CPU. Recent decisions by the Federal Circuit have emphasized that a computer or microprocessor programmed to perform a particular function is different from a general purpose computer (*see, e.g., WMS Gaming, Inc. v. International Gaming Tech.*, 184 F.3d 1339 (Fed. Cir. 1999)). Therefore, the approximate temperature calculating section, which is "adapted" to perform the specified functions, is more than a mere statement of purpose and may serve as a patentable limitation.

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Conclusion

In view of the foregoing remarks, applicant respectfully requests reconsideration and allowance of all the claims.